

## ***Macintosh II***

## ***Introduction***

If you have purchased the new Macintosh II workstation from New England Digital, you now control the Synclavier and Direct-to-Disk systems by entering commands and information on an "intelligent" terminal.

### ***The new terminal***

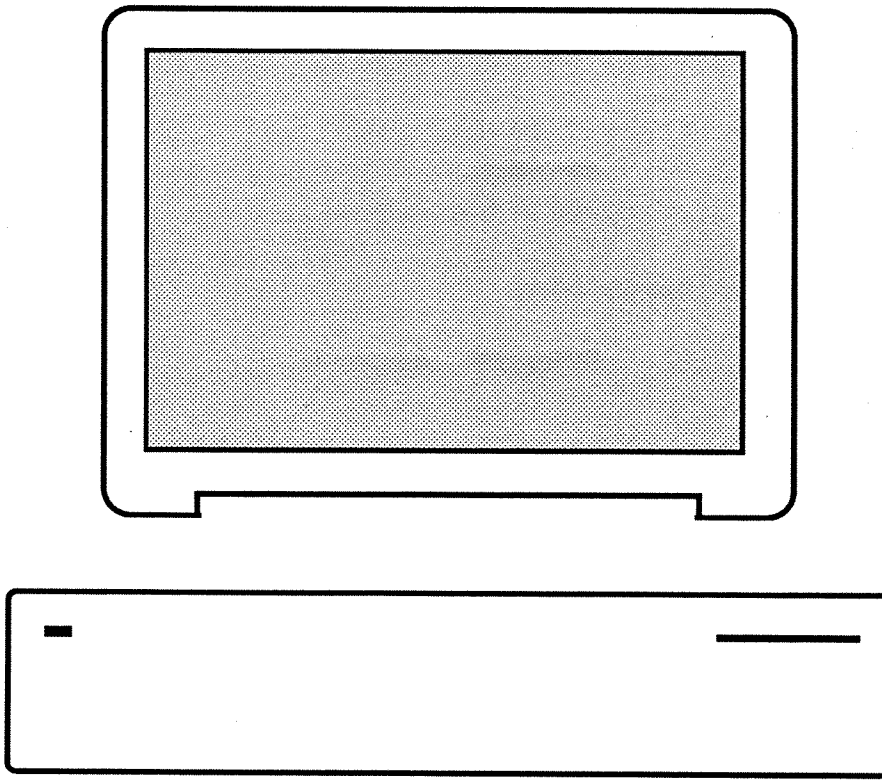
Based on a Macintosh II computer, the new terminal consists of several components:

- main unit,
- high-resolution screen,
- extended terminal keyboard,
- trackball.

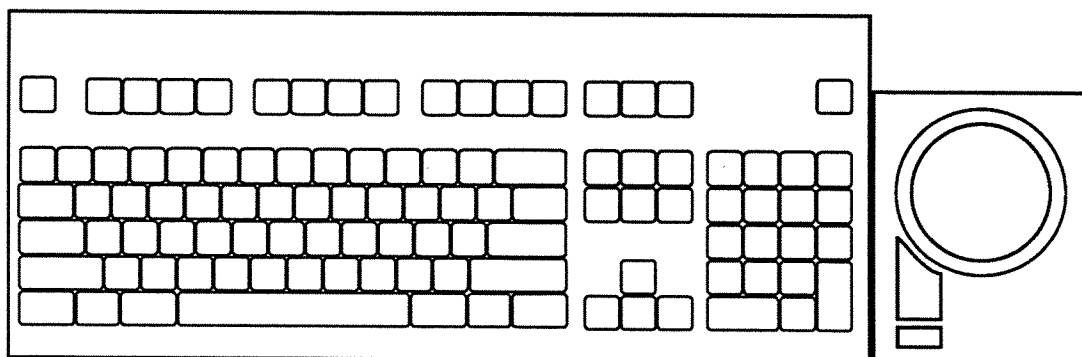
Currently, the new terminal uses a program called NED StartUp to merely emulate the Monterey MG600 terminal (referred to as the old terminal). Future releases will utilize the full capabilities of the Macintosh II.

New England Digital recommends that you read all the documentation that accompanies the new terminal. The New Features Update and this document contain information that supercedes the Macintosh II Owner's guide. The second chapter of the Macintosh II Owner's guide provides basic instructions for operating the new terminal.

*New terminal and screen*



*Terminal keyboard and trackball*



## ***Setting up***

Follow these instructions to set up your new terminal with the Synclavier or Direct-to-Disk system. You can arrange the components of your system in several ways. These pages describe the configuration used most frequently.

You may find it helpful to refer to the diagrams in the first chapter of the Macintosh II Owner's guide. New England Digital strongly recommends that you read all the warnings included in that chapter.

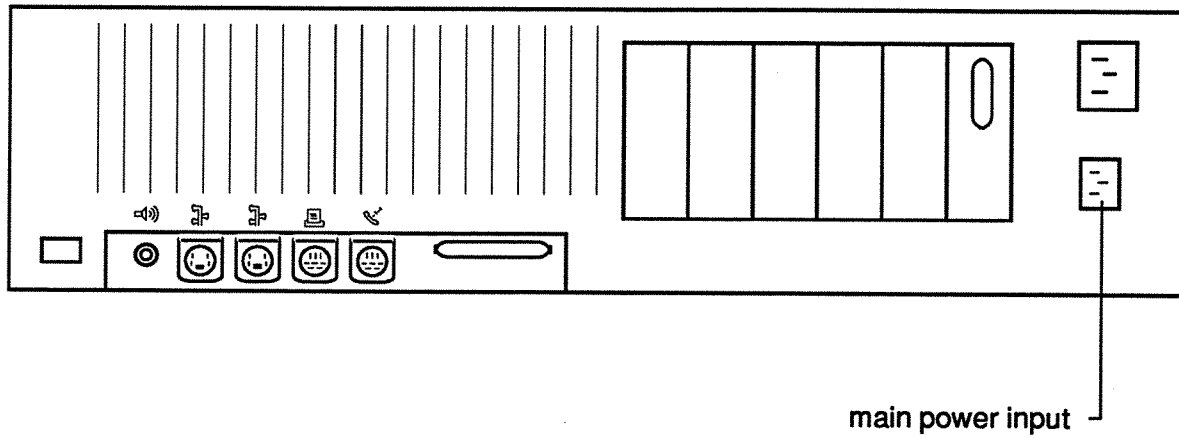
### ***Connecting the main power cord***

Because the main power cord provides a ground for the system, you need to connect it first.

1. Turn the main unit of the new terminal so that you are facing its back panel.
2. Plug the socket end of the main power cord into the main power input, located at the bottom right of the back panel.
3. Plug the other end of the main power cord into a three-hole grounded AC power outlet.

**WARNING:** Do not turn on the computer system until you have completed the entire installation process. If the power is on, turn it off and wait at least five minutes before continuing.

*Back panel of the terminal main unit*



## *Connecting the terminal screen*

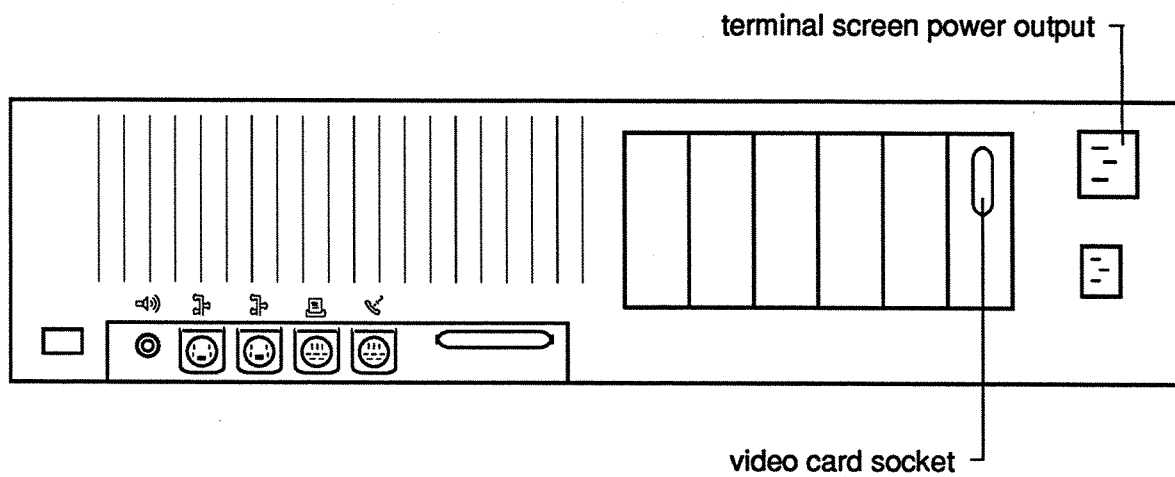
The video card has already been installed by New England Digital. You need to connect the video cable and terminal screen power cord. (The terminal screen is referred to as the monitor in the Macintosh II Owner's guide.)

1. Place the terminal screen near the main unit of the new terminal. Turn them so that you are facing their back panels.

**WARNING:** Do not place the terminal screen directly on the main unit of the terminal.

2. Connect the red, green and blue BNC ends of the video cable to the corresponding connectors labeled R, G and B on the back of the terminal screen. If your video cable includes a gray BNC end, connect it to the connector labeled HD.
3. Connect the other end of the video cable to the socket on the video card (accessed through the expansion slot in the back of the main unit). Tighten the thumbscrews.
4. Plug the three-pronged end of the terminal screen power cord into the terminal screen power output, located at the top right of the main unit back panel.
5. Plug the socket end of the power cord into the power input on the back of the terminal screen.

*Back panel of the terminal main unit*



## *Connecting the trackball and keyboard*

The trackball cable and keyboard cable are interchangeable. They can be connected in a variety of ways. This page describes the configuration used most frequently.

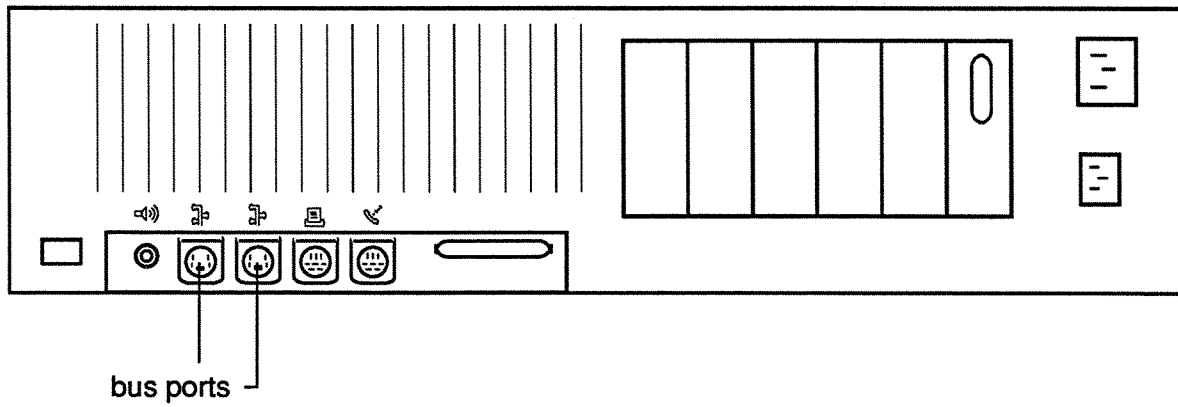
1. Place the new terminal keyboard and trackball near the back of the main unit.
2. Connect either end of the trackball cable to the socket on either the right or left side of the trackball.
3. Connect the other end of the trackball cable to either of the two bus ports, located at the bottom of the main unit back panel.

The bus ports are second and third from the left as you face the back panel. There are identical icons above the sockets.

4. Connect either end of the keyboard cable to the socket on either the right or left side of the terminal keyboard.
5. Connect the other end of the keyboard cable to the other bus port, located at the bottom of the main unit back panel.



*Back panel of the terminal main unit*



## *Connecting the Synclavier, Direct-to-Disk and printer*

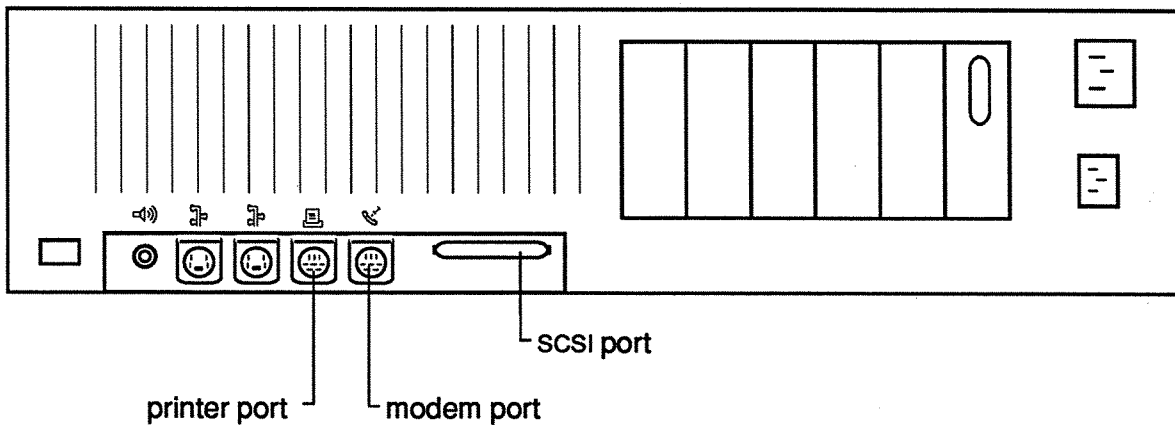
In addition to the five cables you have already connected, there is an Able-to-Mac cable that is 100 feet long. The large end of the cable has seven pins, and the small end has eight pins.

1. Connect the large end of the Able-to-Mac cable to the TERMINAL port on the Able computer panel.

**WARNING:** Do not connect the Able-to-Mac cable to the SCSI port on the main unit of the new terminal.

2. Connect the small end of the Able-to-Mac cable to the modem port (the serial interface port that is closest to the SCSI port) on the back of the main unit of the terminal. The modem port has a phone icon above it.
3. If you want to use a printer, connect it to the other serial interface port on the main unit of the terminal. The printer port has a printer icon above it.

*Back panel of the terminal main unit*



## ***Starting the system***

To start the system, you need to turn on the power and understand how to use the trackball and the new terminal.

### ***Turning on the power***

We recommend that you set up your system so that one switch turns on all components.

1. Turn on that power switch now.

The red power indicator on the Able computer control unit lights. If you have the Synclavier keyboard, its display window shows broken horizontal lines.

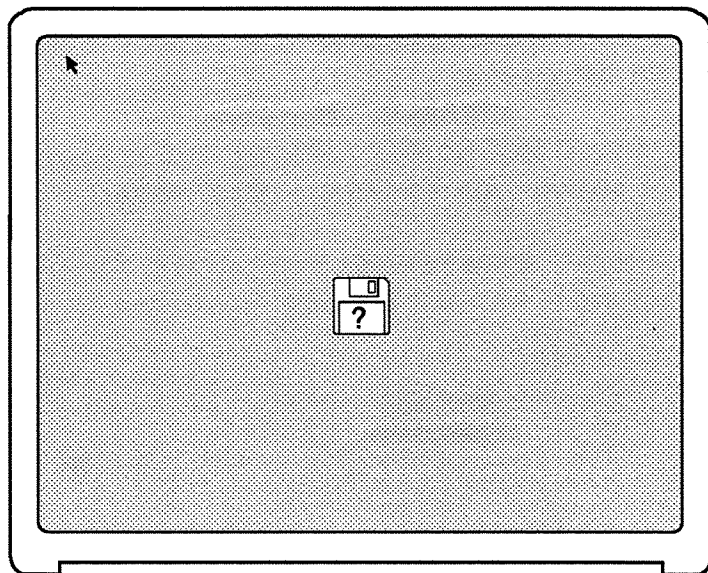
2. Wait about 30 seconds to allow for warm-up time.
3. If the power indicator on the terminal screen is not lit, press the terminal screen power switch. It is located at the bottom right as you face the front of the terminal screen.
4. Press the Power On key near the top right corner of the terminal keyboard. The Power On key is labeled with a triangle.

A chord sounds. An arrow and a disk icon with a flashing question mark appear on the terminal screen. The terminal is waiting for you to insert a 3.5" disk into the disk drive.

If you have never used a trackball, you may want to practice before starting to work with your Synclavier or Direct-to-Disk system. If this is the case, proceed to "The trackball."

If you already know how to use a trackball, go on to "Using the new terminal."

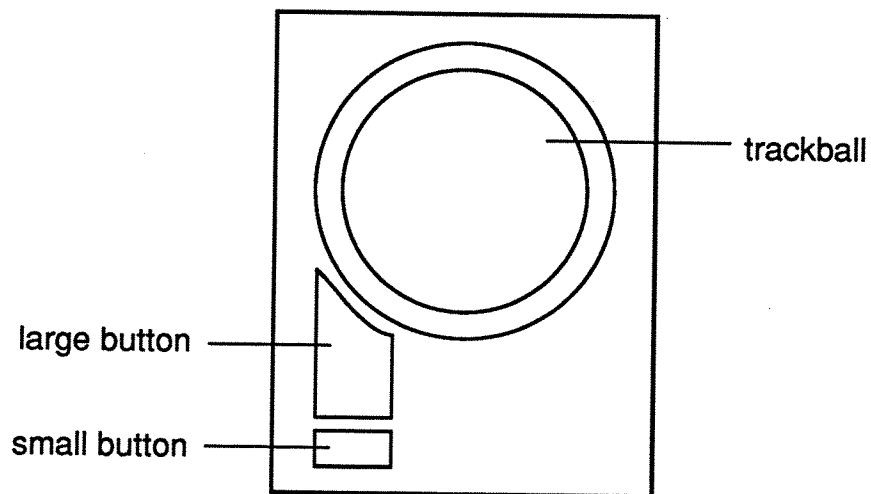
*Signals when the power is on*



## *The trackball*

The trackball unit is a hand-operated controller that has three components.

- The trackball rolls in its socket and is used to move the arrow pointer and other items on the screen.
- The large button is used to activate commands, enter or exit displays, select screen items or open applications or documents.
- The small button “locks” on a selected item, so you can move the item or scroll through options without holding the button.



## *Using the trackball*

The following exercise shows you how to control each of the trackball components and how to **click**, **drag** and **select** items on the screen.

1. Place your hand on top of the trackball and move it so that the trackball rolls in its socket.

The movement of the arrow pointer on the screen corresponds to the direction and speed of the trackball movement.

2. Insert the 3.5" disk labeled System Tools Disk #1 into the disk drive of the terminal, metal end first, label side up.

A smile replaces the question mark, and the screen shows a Welcome message.

A horizontal menu bar with menu titles appears at the top of the screen. A disk icon appears at the top right, and a trashcan icon appears at the bottom right of the screen.

3. Roll the trackball until the tip of the pointer is on the trashcan icon. Click (press and release) the small button to select and lock the trashcan icon.

4. Roll the trackball to drag the trashcan icon to another location.

An outline of the icon moves with the pointer.

5. Click the small button to unlock the icon.

The icon remains selected and quickly moves to the location you chose.

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## *Using the trackball (con't)*

6. With the pointer on the trashcan icon, press and hold the large button while you roll the trackball.

An outline of the icon moves with the pointer.

7. When the icon is in the desired location, release the button.

The icon remains selected and quickly moves to the location you chose.

8. When you have finished practicing, roll the trackball to the top of the screen until the tip of the pointer is on Special. Click the small button to lock the menu.

The Special menu items appear.

9. Roll the trackball until the tip of the pointer is on Restart. Click the small button to select Restart.

The disk is ejected from the drive, a chord sounds and the icon with a flashing question mark appears on the screen. The terminal is waiting for you to insert another disk.

**Note:** Use the large button for double-clicking or to close a window by clicking.



## *Using the new terminal*

If you have never used a Macintosh before, we recommend that you now use the Macintosh tutorial or the training disk labeled "Your Apple Tour of the Macintosh II (Operating Your Computer)." Both are explained in the second chapter of the Macintosh II Owner's guide. Use the trackball instead of a mouse to manipulate items on the screen.

If you use the training disk, the terminal will be restarted automatically when you quit the tour. If you use the manual tutorial, follow this instruction when you finish.

- Select Restart from the Special menu.

The disk is ejected from the drive, a chord sounds and the icon with a flashing question mark appears on the screen.

## ***Backing up the NED System Disk***

Before you work with the new software for the first time, we recommend that you make a backup copy of the NED System Disk. You need a blank 3.5" double-sided disk, which can be purchased at a computer store.

### ***Initializing a blank disk***

1. Insert the NED System Disk into the disk drive of the terminal.

A smile replaces the question mark, and the screen shows the New England Digital logo. After a few moments, a horizontal menu bar and a flashing rectangle appear at the top of the screen.

2. Select Quit from the File menu.

In a few moments, the titles in the menu bar change and the NED System Disk icon appears in the top right corner of the screen.

3. Select Eject from the File menu.

The disk is ejected from the drive, but its icon remains on the screen.

4. Insert a blank 3.5" double-sided disk into the disk drive.

This message appears on the screen.

This disk is unreadable:  
Do you want to initialize it?  
Eject    One-Sided    Two-Sided

5. Click Two-Sided.

The message on the screen changes.

This process will erase all  
information on this disk.  
Cancel                  Erase

6. Click Erase.

Another message appears.

Please name this disk:  
Untitled  
OK

7. Type the desired name and then click OK.

Several messages appear on the screen to indicate that the disk is being initialized. This process takes about a minute.

## *Copying the NED System Disk*

When the initialization process is complete, the icon for your blank disk appears below the NED System Disk icon.

1. Drag the NED System Disk icon onto the blank disk icon.

The blank disk is ejected from the drive and a message appears.

Please insert the disk:  
NED System Disk

2. Insert the NED System Disk into the disk drive.

The message changes.

Are you sure you want to completely  
replace contents of  
    "[disk name]" (not in any drive)  
with contents of  
    "NED System Disk" (internal drive)?  
OK      Cancel

3. Click OK.

Several messages appear on the screen to indicate that the NED System Disk is being copied onto the blank disk. Three times during the backup procedure, the current disk is ejected from the drive, and the second line in the message box prompts you to insert the other disk.

4. Insert the disks as prompted by the messages on the screen.

The message box disappears when the backup procedure, which takes about two minutes, is complete.

5. When the procedure is complete, select Restart from the Special menu.

Your backup disk is ejected from the drive, and the message box reappears.

6. Insert the NED System Disk into the disk drive.

The disk is ejected from the drive, a chord sounds and the icon with a flashing question mark appears on the screen.

## ***Activating the Real-Time Performance system***

Once the power is on, you need to start both the terminal software and the Synclavier or Direct-to-Disk software.

### ***Starting the software***

1. Insert the 3.5" disk labeled NED System Disk into the disk drive of the terminal, metal end first, label side up.

A smile replaces the question mark, and the screen shows the New England Digital logo.

A horizontal menu bar appears at the top of the screen with the name of each menu in the NED StartUp program. Below the menu bar, a window opens with a flashing rectangle in the top left corner. The flashing rectangle is called the **screen cursor**.

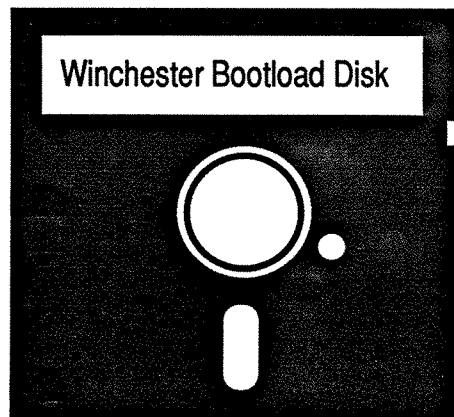
2. The Synclavier and Direct-to-Disk systems are set for a baud rate of 9600 before shipping. If you have changed the baud rate of your system, select the corresponding baud rate from the Terminal menu.
3. Insert the 5.25" disk labeled Winchester Bootload Disk into the floppy drive (F0:). The floppy drive is the black box attached to the connector labeled FLOPPY DRIVE 0 on the Able computer control unit.
4. Turn the lever on the floppy drive to the down position.
5. Press the red LOAD button on the floppy drive.

A brief series of messages appear on the screen, followed by the Welcome Menu of the Real-Time Performance (RTP) system.

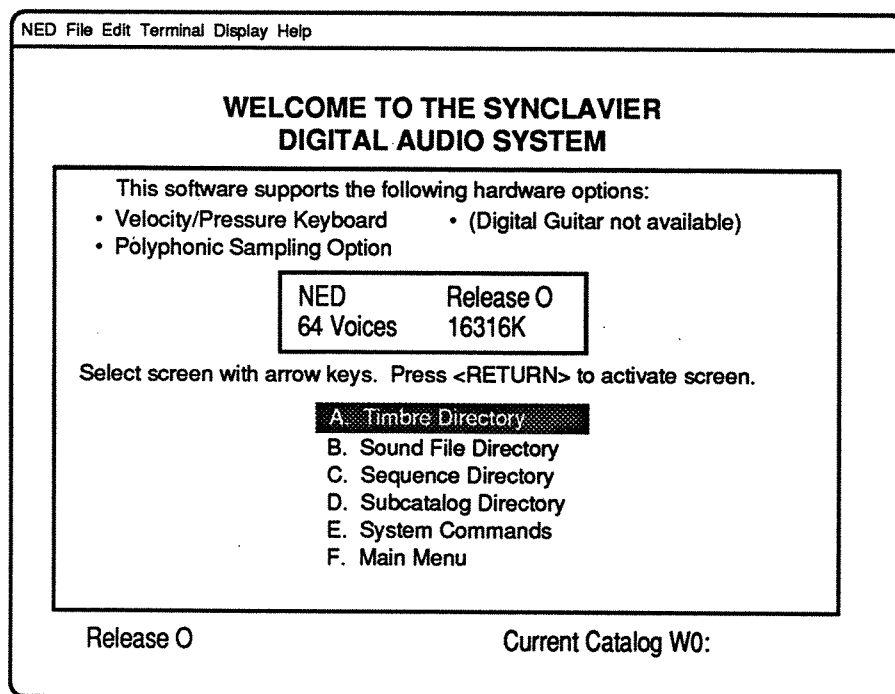
If you have a Synclavier keyboard, its display window shows the software release name, the number of voices and the amount of memory installed in your system. Three buttons light on the keyboard control panel.

**Note:** Use the NED System Disk only for operating the Synclavier and Direct-to-Disk systems. Use another startup disk if you want to use your Macintosh II for other applications.

## Startup disks



## Welcome Menu



## *NED StartUp menus*

The horizontal menu bar at the top of the terminal screen contains six menu titles. When you click a menu title, a list of commands appears. Just to the right of the titles in the menu bar is an icon that represents MacroMaker, an accessory which allows you to define program-specific commands.

menu	command	function
NED	About NED StartUp...	Shows copyright information. Click anywhere on the About NED StartUp display to clear it from the screen.
	Chooser	Desk accessory used to select printer.
	Control Panel	Desk accessory used to set terminal and keyboard controls (see the Macintosh II Owner's guide).
File	Quit	Exits the NED StartUp program.
Edit		All the Edit menu items are inactive in the NED StartUp program.
Terminal	PF1	Moves from the RTP system or Music Printing to the Reverse Compiler.
	PF2	Moves to the RTP system.
	PF3	Moves from the RTP system to Music Printing.
	PF4	Moves to the Signal File Manager.
	Pause	Freezes and unfreezes a scrolling screen.
	Send Break	Moves from the Main Menu of the RTP system to the Monitor software module.
	Reset	Reinitializes the terminal screen and trackball.


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## *NED StartUp menus (con't)*

menu	command	function
Terminal	Baud	Rate should correspond to the baud rate of your Synclavier or Direct-to-Disk system.
	Modem	Sets the Macintosh modem port to communicate with the Synclavier or Direct-to-Disk.
	Printer	Sets the Macintosh printer port to communicate with the Synclavier or Direct-to-Disk.
Display	Half Size	The window uses about one-fourth the area of the terminal screen.
	Mid Size	The window uses about one-third the area of the terminal screen.
	Full Size	The window is the same size as the terminal screen.
	Show Title & Scrollbars	Toggles between showing and hiding the title and scroll bars around the window. This command toggles to "Hide Title & Scrollbars."
	Extended	The window is larger than the terminal screen. This command is used only with the Music Printing Option.
	White-on-Black	Displays white print on a dark background. This command toggles to "Black-on-White."
Help	Help	Describes startup and shutdown procedures and displays a list of frequently used terminal keyboard commands.

## *The terminal keyboard*

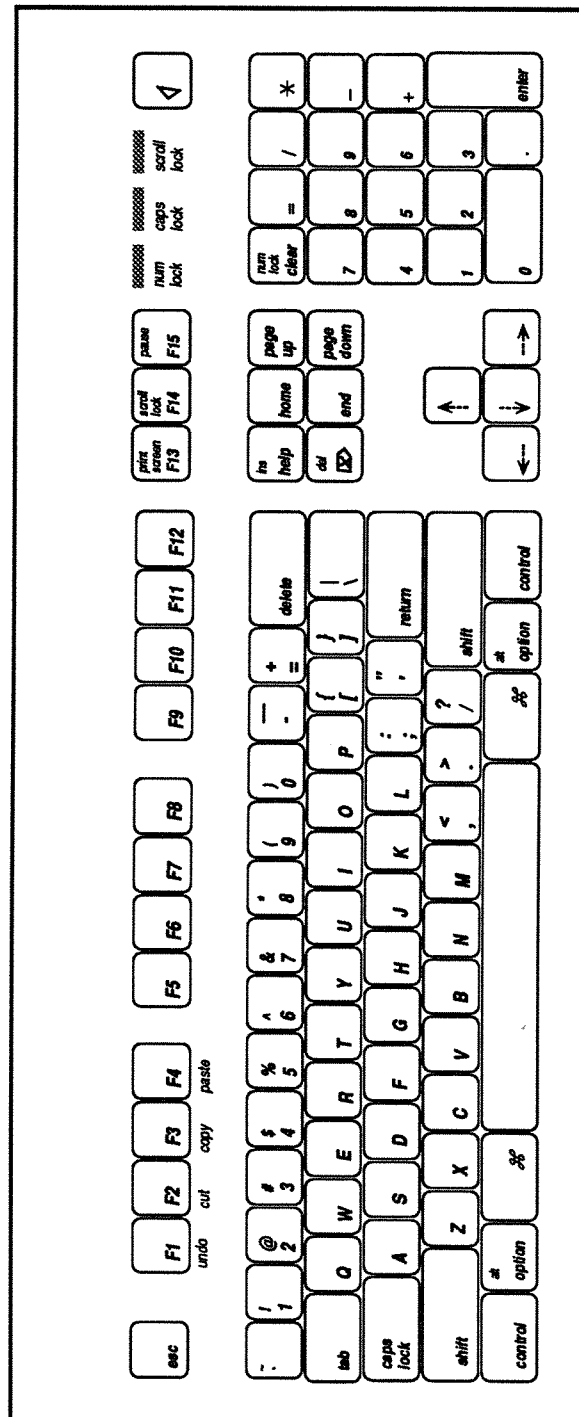
Because the new terminal keyboard is different than the old terminal keyboard, several commands are executed differently. The following table contains a list of old terminal keyboard commands and their equivalents for the new terminal keyboard.

old keys	new keys	functions
Backspace	del 	Screen Editor cursor moves left one space without deleting character.
Break	⌘-Spacebar	Moves from the Main Menu of the RTP system to the Monitor software module.
Line feed	Page Down	Cursor moves down one line.
No scroll	pause F15	Freezes and unfreezes a scrolling screen.
PF1 or F1	F1	Moves from RTP or Music Printing to Reverse Compiler.
PF2 or F2	F2	Moves to RTP.
PF3 or F3	F3	Moves from RTP to Music Printing.
PF4 or F4	F4	Moves to Signal File Manager.
diagonal arrow	Home	Screen Editor cursor moves to command column.
, (keypad comma) + (keypad plus)		Executes commands, such as Save sequence, in the Music Printing Option.

**Note:** You still can send the F1, F2, F3 and F4 commands by pressing the keys in the top row of the numeric keypad.



## The new terminal keyboard



## *Changing the window size*

You can view the window on the terminal screen in any one of three sizes. An extended window size also is available for use with the Music Printing Option.

- Half Size uses about one-fourth the area of the terminal screen.
- Mid Size uses about one-third the area of the terminal screen.
- Full Size is the same size as the terminal screen.

You can change the window size by using the Display menu.

1. Roll the trackball until the tip of the pointer is on Display, and click the small button.

The Display menu items appear.

2. Roll the trackball until the tip of the pointer is on the desired size, and click the small button again.

The window changes to the selected size.

You also can change the window size by using terminal keyboard commands.

- Press ⌘-5 to select Half Size.
- Press ⌘-6 to select Mid Size.
- Press ⌘-7 to select Full Size.

## *The Display menu*

Display	
Half Size	⌘5
Mid Size	⌘6
Full Size	⌘7
-----	
Show Title & Scrollbars	⌘8
-----	
Extended	
-----	
White-on-Black	

## ***Using the trackball in the Real-Time Performance system***

All of the functions that were previously controlled by the mouse are now controlled by the trackball. You can activate commands, select and move values, enter and exit displays, scroll through a set of options and perform many other operations.

### ***Controlling the trackball cursor***

When the arrow pointer on the terminal screen is moved from the menu bar to an RTP display, it changes into a crosshair, called the **trackball cursor**.

- Place your hand on top of the trackball, and move it so that the trackball rolls in its socket.

The movement of the trackball cursor on the screen corresponds to the direction and speed of the trackball movement.

No operation is activated by the trackball until you press one of the trackball buttons. When you press the large trackball button, the trackball cursor momentarily becomes three-dimensional.

When you press the small trackball button, the trackball cursor becomes three-dimensional to indicate that the button is locked. When you press the small trackball button again, the cursor changes back to a crosshair to indicate that the button is unlocked.

## *Clicking and dragging*

You can **click** some items on the terminal screen. Clicking an item may activate a command, select a menu choice, exit a display or enter a value.

1. Roll the trackball until the trackball cursor is on the desired item.
2. Press and immediately release the large trackball button.

You can **drag** some items on the terminal screen. Dragging is used to move something from one place to another.

1. Roll the trackball until the trackball cursor is on the desired item.
2. Click the small trackball button to lock the item under the cursor.

The cursor becomes a diamond to indicate that the item can be dragged.

3. Roll the trackball until the cursor is in a new location, and click the small button again to release the item.

If the item you dragged is in a valid format, range and location, it appears in that location. If it is not valid, an error message appears or the information is ignored.

## *Operating screen switches*

Some RTP displays contain switches. You can use the trackball and terminal keyboard instead of the left or right mouse button to **step** through the options available on a screen switch.

1. Roll the trackball until the trackball cursor is on the screen switch.
2. Press and hold the ⌘ key while you click the large trackball button to step to the next switch options.

OR

Press and hold the Option key while you click the large trackball button to step to the previous switch options.

You can use the trackball alone to **scroll** forward or backward through a set of options available on a screen switch.

1. Roll the trackball until the trackball cursor is on the screen switch.
2. Click the small trackball button to lock the screen switch.

The switch is highlighted and the trackball cursor disappears.

3. Roll the trackball right or left to scroll through the available options.
4. Click the small button again to select the desired option.

The trackball cursor reappears.

## *Entering values and text*

You can use the trackball and terminal keyboard instead of the left or right mouse button to enter values into time fields on the screen.

1. Roll the trackball until the trackball cursor is on the desired segment (for example, the minutes segment in a SMPTE time field).
2. Press and hold the ⌘ key while you click the large trackball button to increase the number in the segment.

OR

Press and hold the Option key while you click the large trackball button to decrease the number in the segment.

You also can enter values and text into some fields on the screen by using the trackball and typing on the terminal keyboard.

1. Roll the trackball until the cursor is on the desired field, and click the large button.

The screen cursor moves to the selected field.

2. Type the entire value or text entry.
3. Press Return or click any other field.

If the value or text you typed is valid, it is entered in the field. If the information is not valid, an error message appears or the information is ignored.

## ***Ending a session***

You can use several methods to turn off your system. The following instructions explain the recommended method.

### ***Turning off the system***

You turn off the system by quitting the NED StartUp program and turning off both the terminal and the Synclavier or Direct-to-Disk.

1. Return to the Main or Welcome Menu in the RTP system.
2. Press ⌘-0, or select Quit from the File menu.

After a few moments, the window closes and the titles in the menu bar change.

3. Select Shut Down from the Special menu.

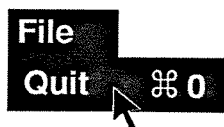
The disk is ejected from the drive, the terminal screen becomes dark and the terminal is turned off automatically.

4. Lift the floppy drive lever and remove the Winchester Bootload disk.
5. Turn off the power switch.

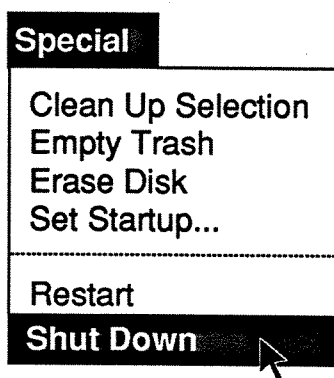
The RTP software is no longer active.



## *Quitting the NED StartUp program*



## *Turning off the terminal*



## *Restarting the NED StartUp program*

You can quit the NED StartUp program, and turn off the terminal or use it for another application without turning off the Synclavier or Direct-to-Disk. If you have not turned off the power, you can restart the NED StartUp program without rebooting the Synclavier or Direct-to-Disk.

1. If the terminal is on, select Restart from the Special menu. Otherwise, press the Power On key on the terminal keyboard.

A chord sounds. The pointer and a disk icon with a flashing question mark appear on the screen.

2. Insert the NED System Disk into the disk drive of the terminal.

The question mark is replaced by a smile. The New England Digital logo and the NED StartUp menus appear. If you restart after quitting from an RTP display, the Main or Welcome Menu appears on the screen. Otherwise, the screen that was displayed when you quit the program reappears.